(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 4 November 2004 (04.11.2004)

PCT

(10) International Publication Number WO 2004/093720 A3

(51) International Patent Classification7:

A61B 18/18

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(21) International Application Number:

PCT/IL2004/000340

(22) International Filing Date: 21 April 2004 (21.04.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/464,120

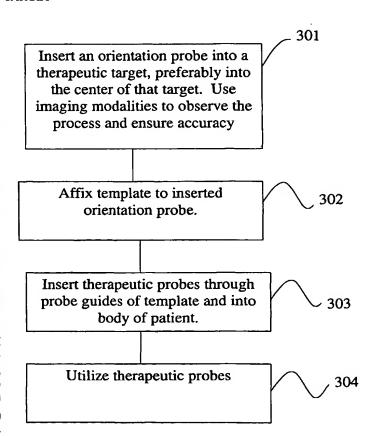
21 April 2003 (21.04.2003)

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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,

[Continued on next page]

(54) Title: APPARATUS AND METHOD POSITIONING A THEREPEUTIC PROBE WITH RESPECT TO A THERAPEUTIC **TARGET**



(57) Abstract: The present invention is of a device and method for positioning a plurality of therapeutic probes with respect to a treatment target within a patient. The method comprises the steps of a) utilizing standard imaging modalities to direct an orientation probe to the target, b) rigidly affixing to the inserted orientation probe a template comprising one or more probe guides, thereby orienting template and probe guides with respect to the target, then c) inserting one or more therapeutic probes through probe guides of the template and into the patient, thereby guiding the therapeutic probes to the treatment target.

WO 2004/093720 A3



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:
 9 December 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

| PCT | /11 | 04 | m. | 13 | 4 | n |
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| | SIFICATION OF SUBJECT MATTER | | | | | | | |
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| IPC(7) : A61B 18/18 | | | | | | | | |
| US CL: 606/20606/20 According to International Patent Classification (IPC) or to both national classification and IPC | | | | | | | | |
| | | ational classification and IFC | | | | | | |
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| Minimum documentation searched (classification system followed by classification symbols) U.S.: 606/20-52 | | | | | | | | |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | | | | | | | |
| Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) | | | | | | | | |
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| C. DOC | UMENTS CONSIDERED TO BE RELEVANT | | | | | | | |
| Category * | Citation of document, with indication, where ap | Relevant to claim No. | | | | | | |
| Y | US 5,672,172 A (ZUPKUS) 30 September 1997 (30 | 1-70 | | | | | | |
| Y | US 5,800,488 A (CROCKETT) 01 September 1998 | 1-70 | | | | | | |
| Y | US 5,976,092 A (CHIN) 02 November 1999 (02.11 | 1-70 | | | | | | |
| Y | US 6,083,166 A (HOLDAWAY) 04 July 2000 (04. | 1-70 | | | | | | |
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| Date of the actual completion of the international search | | Date of mailing of the international search report 21 0C,T 2004 | | | | | | |
| | er 2004 (28.09.2004) | // | | | | | | |
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